

**Air Pollution Control District
Jefferson County, Ky
14 January 2003**

TITLE V PERMIT SUMMARY

Company: United Defense LP

Plant Location: 163 Rochester Drive, Louisville KY 40214-2683

Date App. Received: 22 April 1997
Revision: 27 April 2000

Date Admin. Complete: 11 June 1997

Date of Draft Permit: 23 April 2000

Date of Proposed Permit: 9 June 2000

District Engineer: Jeani Bryant

Permit #: 142-97-TV (R1)

Plant ID: 1216

SIC Code: 3489

NAICS: 332995

AFS: 01216

Introduction:

This permit will be issued pursuant to: (1) District Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as of the date above as an attainment area for lead (Pb), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), particulate matter less than 10 microns (PM₁₀), and ozone (O₃) (1 hour standard); unclassifiable for particulate matter less than 2.5 microns (PM_{2.5}) and ozone (O₃) (8 hour standard).

Application Type/Permit Activity:

- ☐ Initial Issuance
- ☒ Permit Revision
 - ☒ Administrative
 - ☐ Minor
 - ☐ Significant
- ☐ Permit Renewal

Compliance Summary:

- ☒ Compliance certification signed
- ☐ Compliance schedule included
- ☐ Source is out of compliance

I. Source Description

1. **Class I Area Impacts:** This plant is not located in or near a Class I area.
2. **Product Description:** Shipboard gun maintenance and refabricating.
3. **Overall Process Description:** United Defense Louisville operations are primarily keyed to US Navy shipboard gun and related ordnance systems engineering, repair, upgrades, maintenance, and logistic support. There are a number of applications performed at this plant such as heat treatment, plating, and surface coating to improve performance and reliability of combat systems. The company operates four natural gas fired boilers that produce steam for heating and other industrial processes. These boilers also are also permitted to burn #2 oil. Surface preparation and finish applications include shot blast processes using steel and aluminum shot, and both liquid and powder coating processes. A diverse range of large capacity electroplating processes are used to plate chromium for purposes of improving wear and corrosion resistance on dynamic and structural components.
4. **Site Determination:** There are no other facilities which are contiguous or adjacent and under common control.
5. **Emission Unit Summary:**
 - a. B3-B6 - Four boilers (35.5 MMBtu/hr each heat input capacity)
 - b. P1-P4 - Four paint booths
 - c. BU1-BU3 - Three blast units
 - d. PE1- PE12 - Chromium electroplating/anodizing operation
 - e. C1 - Powder coating operation
 - f. F1 - Fiberglass repair operation
 - g. PC - Parts cleaner (Cold Solvent)
6. **Fugitive Sources:** See Title V permit application.
7. **Permit Revisions**

Revision 1: The Title V operating permit was administratively revised on January 14, 2003 to incorporate the newly established performance indicator ranges for control devices PS3 and PS6. The new ranges were established during a stack test conducted on March 12-13, 2002. Additionally, the emissions of total chromium exiting the scrubber stacks were determined using test methods 1-4 of 40 CFR 60 and 40 CFR 63, Appendix A, Method 306A. The stack test results demonstrated compliance with the chromium emission standard (0.03 mg/dscm) for existing small hard chromium electroplating facilities as specified in 40 CFR Part 63, Subpart N. The total chromium emissions from this facility also meet the more stringent new source emission standard of 0.015 mg/dscm.
8. **Title V Major Source Status by Pollutant:**

Pollutant	Actual Emissions (tpy) 1999 Data	Major Source Status (Potential to Emit)
CO	0.026	No
NO _x	0.104	No
SO ₂	Negligible	Yes
PM	0.769	No
VOC	3.43	No
Single HAP (>1 tpy)		
Methyl ethyl ketone	2.36	No
Total HAPs (VOC and Non-VOC)	3.63	Yes

9. **MACT Standards:** The chromium electroplating and anodizing operations are subject to 40 CFR Part 63, Subpart N.

10. **Applicable Requirements:**

☐ PSD ☐ NSPS ☒ SIP ☐ Other
☐ NSR ☒ NESHAPS ☒ District-Origin ☒ MACT

11. **Referenced Federal Regulations in Permit:**

40 CFR Part 63 Subpart A General Provisions
 40 CFR Part 63 Subpart N Chromium Electroplating/Anodizing

II. Regulatory Analysis

- Emission and Operating Caps:** Regulation 6.43 limits the daily VOC emissions from this plant to 255 lbs per operating day.
- Compliance Status:** The company signed and submitted the compliance certification form in its Title V permit application.
- Operational Flexibility:** The boilers at this plant are permitted to combust #2 fuel oil in addition to natural gas.
- Testing Requirements:** The initial performance test required by 40 CFR 63 Subpart N was performed in June 1993. The stack test results demonstrated compliance with the chromium emission standard specified in 40 CFR Part 63, Subpart N.
- Monitoring, Record keeping and Reporting Requirements:** Specific monitoring, record keeping, and reporting requirements are specified with each emission unit in the permit.

6. **Periodic Monitoring:**

a. **Opacity**

- 1) **Emission Points E1, E2, E3, E4** - The four boilers are capable of burning natural gas or fuel oil, however; the units are typically gas fired and have been for the past 5 years. These emission units have no history of failure to comply with the opacity standard. The tiered weekly to monthly opacity monitoring requirements will further establish a history of compliance with the opacity standard when combusting natural gas. When combusting fuel oil, the company will be required to perform daily visible emissions surveys. The source is required to initiate corrective action within 8 hours if visible emissions are observed during a survey. If visible emissions persist, within 24 hours, the owner or operator performs a Method 9 test. Since these units, for the most part, burn natural gas exclusively, it is unlikely that these units will ever create a visible plume. The VE surveys coupled with record keeping and semi-annual compliance reports is adequate periodic monitoring to reasonably assure ongoing compliance with the opacity standard.
- 2) **Emission Points E5, E6, E7, E8** - These emission units have no history of failure to comply with the opacity standard. The tiered weekly to monthly opacity monitoring requirements will further establish a history of compliance with the opacity standard. The source is required to initiate corrective action within 8 hours if visible emissions are observed during a survey. If visible emissions persist, within 24 hours, the owner or operator performs a Method 9 test. The VE surveys coupled with weekly inspections of the Dry Filter System to control PM emissions is adequate periodic monitoring to reasonably assure ongoing compliance with the opacity standard.
- 3) **Emission Points E11, E12, E14** - The daily visible emission survey for the blast booths is adequate periodic monitoring to reasonably assure ongoing compliance with the opacity standard. The source is required to initiate corrective action within 8 hours if visible emissions are observed during a survey. If visible emissions persist, within 24 hours, the owner or operator performs a Method 9 test. These emission units have no history of failure to comply with the opacity standard. Additionally, the source is required to monitor the pressure drop for each baghouse on a daily basis.
- 4) **Emission Point E30** - This emission unit has no history of failure to comply with the opacity standard. The tiered weekly to monthly opacity monitoring requirements will further establish a history of compliance with the opacity standard. The source is required to initiate corrective action within 8 hours if visible emissions are observed during a survey. If visible emissions persist, within 24

hours, the owner or operator performs a Method 9 test. The VE surveys coupled with weekly inspections of the PM Filter System is adequate periodic monitoring to reasonably assure ongoing compliance with the opacity standard.

b. _____Particulate Matter

- 1) **Emission Points E1, E2, E3, E4** - The company is required to monitor and record the monthly fuel usage and type for each boiler for each operating day. Additionally, purchase records must be kept that show the heating value, ash content, and sulfur content for each shipment of fuel oil.
- 2) **Emission Points E5, E6, E7, E8** - The company is required to maintain daily records of coating usage which includes the weight % of solids. Additionally, weekly inspections of the Dry filter system used to control PM emissions must be performed. Daily manometer readings will be recorded. The District has determined that daily records of coating usage coupled with periodic inspections of the PM Filter System is sufficient periodic monitoring to reasonably assure ongoing compliance with the PM emission standard.
- 3) **Emission Points E11, E12, E14** - The District has determined that based on the calculations of actual emission rates, the daily parametric monitoring of each baghouse, daily hours of operation, records of the quantity of parts processed and the quantity of steel or aluminum shot used will reasonably assure ongoing compliance with the PM emission standard.
- 4) **Emission Point E30** - Periodic monitoring for the powder coating operations consists of daily records of coating usage and weekly inspections of the PM filter system.

c. SO₂

- 1) **Emission Points E1, E2, E3, E4** - The District has determined that fuel shipment records which includes the weight % of sulfur will reasonably assure ongoing compliance with the SO₂ emission standard.

d. VOC

- 1) **Emission Units E5, E6, E7, E8** - Periodic monitoring for the coating operation consists of daily records of the coatings used. These records will include the coating name, VOC content, daily usage and the daily, monthly, and annual VOC emissions. The District has determined that the daily record keeping is sufficient monitoring to reasonably assure ongoing compliance with the VOC limits specified

in the Title V operating permit.

e. **Hexavalent Chromium**

- 1) **Emission Units PE3, PE11** - The chrome electroplating process is monitored daily for the velocity pressure at the inlet of the scrubber and the pressure drop across the scrubber. Stack test results (8/93 & 11/98) have determined that these units operate well below the chromium emission standard. The District has determined that monitoring the performance of the control device, on a daily basis, will reasonably assure ongoing compliance with the chromium emission standard specified in 40 CFR Part 63, Subpart N.

7. **Off-Permit Documents:** None

The District considers an “off-permit document” as a document on which a source’s compliance with given regulation(s) is contingent or which contains regulatory requirement(s), but is only referenced in a source’s Title V Operating Permit. The designation “off-permit document” shall be made at the District’s discretion, and may include, but not be limited to, documents such as Regulation 1.05 VOC compliance plans, PMPs, MOCS; or other documents which are too voluminous to be included in a source’s Title V Operating Permit, as determined by the District.

III. **Other Requirements**

1. **Temporary Facilities:** The source did not identify any temporary facilities in its Title V permit application
2. **Short Term Activities:** The source did not identify any short term activities in its Title V permit application
3. **Emissions Trading:** None
4. **Acid Rain Requirements:** This source is not subject to the Acid Rain Program.
5. **Prevention of Accidental Releases 112®):** The source does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68 Subpart F and District Regulation 5.15 in a quantity in excess of the corresponding specified threshold amount.
6. **Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source did not identify any of the listed chemicals in its Title V permit application.
7. **Insignificant Activities:**

Insignificant Activities		
Description	Quantity	Basis
Internal combustion engines fixed or mobile	Various	Regulation 2.02, section 2.2
Brazing, soldering or welding operation	Various	Regulation 2.02, section 2.3.4
Dipping operations - coating objects with oils, waxes, or greases	Various	Regulation 2.02, section 2.3.9.1
Lab venting and exhaust systems (non radioactive materials)	Various	Regulation 2.02, section 2.3.11
Heat treating, soaking, case hardening or surface conditioning of metal objects - natural or lp gas only	Various	Regulation 2.02, section 2.3.14
Combustion sources (< 10 MMBtu/hr)	16	Regulation 2.02, section 2.1.1
Wasting or drying fabricated metal or glass Non VOC use - no oil or solid fuel	Various	Regulation 2.02, section 2.3.15
Blast cleaning using abrasives in water	1	Regulation 2.02, section 2.3.13
PM collectors venting indoors	6	Regulation 2.02, section 2.3.21
Portable gas storage tanks	1	Regulation 2.02, section 2.3.23
Plasma arc cutting equipment	1	Negligible emissions
Car bottom furnace (natural gas)	1	Negligible emissions
Waste water treatment facility	1	Negligible emissions
Storage tanks containing aqueous HCl, NaOH and NaHSO ₃	Various	Negligible emissions

- a. Insignificant Activities are only those activities or processes falling into the general categories defined in Regulation 2.02, Section 2, and not associated with a specific operation or process for which there is a specific regulation. Equipment associated with a specific operation or process (Emission Unit) shall be listed with the specific process even though there may be no applicable requirements. Information contained in the permit and permit summary shall clearly indicate that those items identified with negligible emissions have no applicable requirements.
- b. Activities identified In Regulation 2.02, Section 2, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the Title V permit.
- i. No facility, having been designated as an insignificant activity, shall be exempt from any generally applicable requirements which shall include a 20% opacity limit for facilities not otherwise regulated.

- ii. No periodic monitoring shall be required for facilities designated as insignificant activities.
 - c. The Insignificant Activities table is correct as of the date the permit was proposed for review by the USEPA, Region 4. The company shall submit an updated list of insignificant activities annually with the Title V compliance certification pursuant to District Regulation 2.16, section 4.3.5.3.6.
- IV. 40 CFR Part 63, Subpart N (New Source Applicability Determination)**

United Defense, Inc. holds a Title V operating which limits the total rectifier capacity in the chromium electroplating facility to less than 60 million ampere-hrs/yr; therefore, the source is designated as a small hard chromium electroplating facility. The chromium electroplating facility is an existing affected source under Subpart N since the facility was constructed prior to December 16, 1993. The company submitted a construction permit application on March 20, 2002 to allow installation of a new chromium electroplating tank (increased depth) which enables the company to process longer gun barrels. The cost of the new chromium tank did not exceed 50% of the cost of the original chromium electroplating tank and ancillary equipment such as rectifiers, anodes, air agitation and handling system, etc.; therefore, the District determined that the installation of the new chromium plating tank does not meet the definition of reconstruction using the proposed definition of "affected source" in Subpart N.